NEW YORK STATE

# Conservationist for Kids!

## RECYCLING & COMPOSTING


If Gabe the dog can recycle, **so can you!**

# Welcome to NEW YORK STATE Conservationist for Kids!

Bottle drives can be a good fund-raiser for your school.

## In this issue:

**The choices we make every day, including what to do with waste, affect the world around us. What choices will you make?**

**Want to receive *Conservationist for Kids* at home? Subscribe to *Conservationist* magazine!**
You'll get six issues of the award-winning *Conservationist* magazine each year, plus *Conservationist for Kids* in the October, February and April issues. Call 1-800-678-6399 for information about how to subscribe.


Visit www.dec.ny.gov for information for kids interested in the environment. Check out Kids GO (Get Outside) for activity ideas, and look for *Conservationist for Kids* online.

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**Albany, NY 12233-4502**

**or e-mail us at**
**cforkids@gw.dec.state.ny.us**

**On the Cover:** Gabe's a fun-loving dog who enjoys running, jumping, barking and learning new tricks, but he's serious about recycling. See Gabe in action at **www.youtube.com/watch?v=4R3az0iH4hs**

# Waste is the stuff we no longer need or want.

It's everything from leftover food to books we've finished reading and clothing we've outgrown. Each New Yorker creates about 4.1 pounds of waste per day. If everything we no longer have use for went into the trash, landfills would fill up quickly, and natural resources needed to make stuff would quickly get used up. Let's make better choices, reduce our waste, and conserve our resources instead.

First, **REDUCE**– Cut back on how much stuff you use, and you'll save resources and the energy needed to make things.

Second, **REUSE**– Your trash could be someone else's treasure, and vice versa. Give away or sell clothing, household items and books you no longer need or want. Organizing a game, sports equipment or book swap at your school could benefit everyone.

Third, **RECYCLE**– Items for recycling are broken down into raw materials (metals, glass, paper pulp, etc.) that can be used to make new items. Fewer raw materials are used when items we purchase contain recycled materials.

**UP-CYCLING** happens when an item that would have otherwise gone into the trash or recycling system is turned into something new instead.

## What will you make?

Turn a soup can into a pencil holder.

Use a jar as a drinking glass.

Convert an old sweater into mittens.

# RECYCLING

Collect recyclables like **paper, plastic, glass and metal.**

**Recycling saves natural resources, and protects the environment. It takes less energy than making something from scratch, and causes less pollution. It also saves landfill space and creates jobs.**

Look for products and packaging made from **recycled materials.** Read the labels to find the **recycled content.**

Companies manufacture recycleables into new products and packaging. **For example,** they use **junk mail to make paper towels, metal cans to make refrigerators, plastic soda bottles to make fill for winter jackets,** and **glass bottles to make fiberglass insulation for buildings.**

The recycling logo shows three arrows chasing each other in a loop. Don't just put your recyclable items in a sorting bin. Close the loop by buying products made from recycled materials.

## Pre-Consumer and Post-Consumer Recycled Content
## What does it mean?

Packaging sometimes describes the amount of pre-consumer and post-consumer recycled content in a product. Pre-consumer content is scrap material from manufacturing. Instead of being disposed of as waste, scrap is returned to the manufacturing process to make products. Post-consumer content includes materials from products you buy, use and separate for recycling. Always look for products with a high post-consumer recycled content.

# What can be recycled?

**Because recycling varies across the state, contact your local recycling coordinator to learn what can be recycled in your community.**

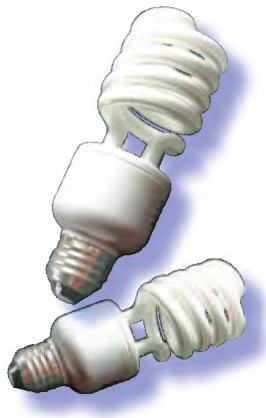
**Basic items include paper, plastic, glass and metal. Look for the number inside the recycling triangle on plastic items to determine which are recyclable.**

## Some items can be recycled but require special care.

Frank Herec

**Electronics (cell phones, TVs, computers, etc.) and rechargeable batteries contain materials which can harm the environment if not disposed of properly.**

Some stores accept electronics for recycling for free. To recycle rechargeable batteries, take them to any retail store that sells rechargeable batteries.



Check with stores before dropping off recyclables. Also watch for municipal electronics recycling days or drop-off sites and follow their guidelines for proper recycling.

Compact fluorescent light bulbs (CFLs) contain a tiny amount of mercury and should be recycled. Used bulbs can be returned to some big-box retail stores, or turned in during community household hazardous waste collection days.


**Compost** is a dark, crumbly, earthy-smelling mixture of decaying organic matter, such as leaves and food scraps.

In this sense of the word, "organic" means "from a living thing." Composting is a way to recycle organic materials and keep them out of the trash. Compost is often mixed into soil so nutrients from organic matter can be used again. Compost adds nutrients for growing plants, improves soil's structure, and helps it retain moisture. Compost can also be used as mulch around plants and trees.

## Composting, step by step:

**1** – Collect organic matter and combine it in a composter or compost pile.

**2** – Allow time for organic matter to break down and become compost (6 to 12 months).

**3** – Use compost in the garden, around the yard and for potted house plants.


**For more information:**

**www.dec.ny.gov/chemical/294.html** DEC's Recycling and Composting
**www.dec.ny.gov/chemical/43349.html** Keep America Beautiful's Recycle-Bowl
**www.dec.ny.gov/chemical/8802.html** DEC's New York Recycles
**www.dec.ny.gov/chemical/8801.html** DEC's Waste Reduction and Recycling Pamphlets
**www.nyc.gov/html/nycwasteless/html/home/home.shtml** NYC Recycles
**www.epa.gov/osw/education/** USEPA's educational materials and games about waste
**http://compost.css.cornell.edu/schools.html** Cornell Waste Management Institute's "Composting in Schools" webpage
***Composting: An Easy Household Guide*** by Nicky Scott, Chelsea Green Publishing Company, White River Junction, VT, 2007
***Reduce, Reuse, Recycle: An Easy Household Guide*** by Nicky Scott, Chelsea Green Publishing Company, White River Junction, VT, 2007
***Where Does the Garbage Go?*** by Paul Showers, Harper Collins (revised edition), 1994
***Worms Eat My Garbage: How to Set Up and Maintain a Worm Composting System,*** 2nd Edition by Mary Appelhof, Flower Press, 2003

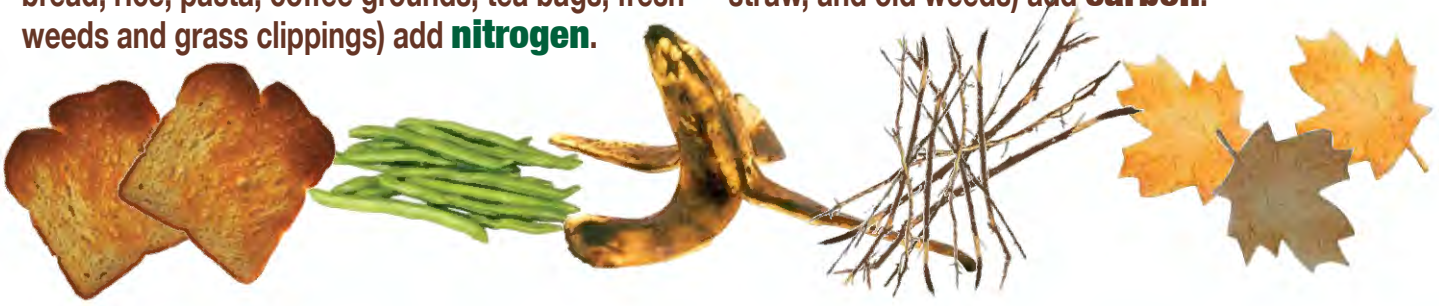
# A RECIPE FOR COMPOST

## Composting is easy if you remember the recipe:

## Making compost takes some care; add **greens**, browns, water and air.

**Green ingredients** (fruit and vegetable scraps, bread, rice, pasta, coffee grounds, tea bags, fresh weeds and grass clippings) add **nitrogen**.

**Brown ingredients** (leaves, twigs, wood chips, straw, and old weeds) add **carbon**.



**Nitrogen and carbon,** in proper balance, promote growth and energy in the bacteria and fungi that break down organic matter. Ideal compost is about two parts brown for every one part green ingredients.

Besides ***bacteria and fungi, invertebrates*** such as mites, millipedes, beetles, sowbugs, earwigs, earthworms, slugs, and snails help break down the materials in the compost. All of them need oxygen and moisture to do their jobs effectively. Material in the composter should be piled loosely. If it's too compacted, air can't flow through. Too much water makes air flow difficult, too. Keep compost moist but not soaking wet.

Common earthworm-Joseph Berger, Bugwood.
Dusky slug-Gary Bernon, USDA APHIS, Bugwood.org
Centipede-Gary Alpert, Harvard University, Bugwood.org

## Composting Indoors

For indoor composting, a worm bin (vermicomposting) is a great option and small enough to fit under the kitchen sink. Worms, typically a species know as "red wigglers" (*Eisenia fetida*) break down organic material along with microscopic organisms, bacteria and fungi. Red wigglers can eat half of their body weight in food scraps and other organics every day! They're a good way to compost fruit and vegetable scraps.

## Composting No-No's

Some things simply should not go into compost. They may take too long to break down, attract unwanted animals, or make the compost undesirable. Don't put meat, fish, bones, dairy or fatty foods (cheese, salad dressing, leftover cooking oil) into compost. Dog and cat droppings don't belong either. Diseased plants and those with lots of seeds also are unsuitable.

**Learn more about composting in your backyard and indoors at www.dec.ny.gov/chemical/8799.html DEC's Composting at Home webpage.**

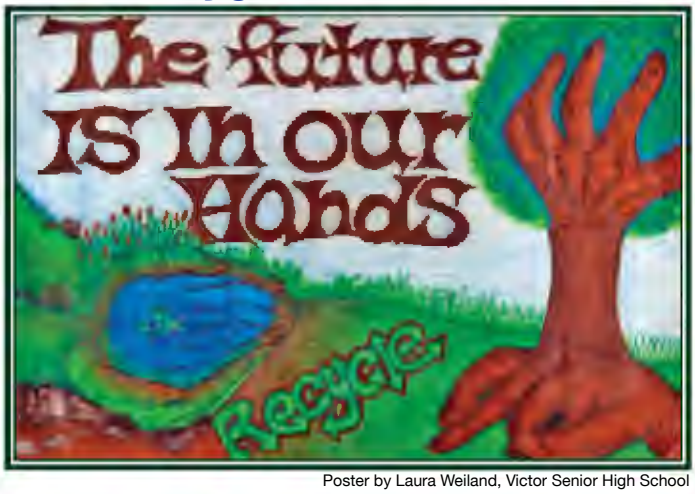
# The Outside Page

Ideas for Exploring Your Environment

## Be a Recycling Detective

### What can be recycled in your area?

Check with your local municipality or waste hauler to see what they accept and how it should be sorted. Watch for opportunities to recycle your waste wherever you are—home, school, the park, the library, the mall, or visiting with friends. Find your local recycling coordinator at **www.dec.ny.gov/chemical/8511.html**




Poster by Laura Weiland, Victor Senior High School

**Help keep the recycling message going by participating in the NY Recycles Poster Contest. Visit www.dec.ny.gov/education/32506.html for more information.**

## Litterless Lunch Challenge

Trash in school cafeterias includes scraps from food preparation and serving, and from disposable dishes and utensils, napkins and milk cartons. Many schools have composting programs for food scraps and leftovers. Some have reusable flatware and dishes rather than disposable items. Lunch wraps and bags from home also add to the trash, along with leftover food that's thrown away. A litterless lunch results in no waste! Are you up for the challenge?

## DO THE MATH

If you take lunch to school each day—a sandwich in a plastic bag, a juice box, an apple and a paper napkin, all in a paper bag—**how much waste do you create? What if every student in your class did the same? Everyone in the school?**

By switching to a reusable lunch bag, reusable containers, a refillable drink bottle and cloth napkin, your only disposable would be an apple core. And that could go into the school's compost. **Voila! A litterless lunch!**

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Joe Martens
Commissioner

# *Conservationist for Kids*

Supplement for Classroom Teachers – Recycling & Composting

## Making Smart Choices about Waste

The choices we make every day, including what we do with waste, affect the world around us. This issue of *Conservationist for Kids (C4K)* takes a closer look at ways that we can make better choices with our waste, focusing on the three Rs - REDUCE, REUSE and RECYCLE. **REDUCE** by cutting back on what we use (not making waste to begin with), which helps save resources and also reduces the energy needed to make things. **REUSE** items rather than throw them away, which helps decrease the amount of waste that goes into landfills. Donating and selling unwanted but still usable items or organizing swaps (book and toy exchanges for example) are great ways to keep things out of landfills. **RECYCLE** items that have programs in place for them instead of throwing them out. Metal cans, glass, many plastics, paper and cardboard are all examples of items that can be recycled. They are broken down into raw materials and used to make new items from existing materials.

All municipalities have laws or ordinances requiring recycling. If your school does not already have a recycling program, work with school administrators or your local municipality, or contact DEC for help in establishing one. Certain items require special handling, including electronics, batteries and compact fluorescent light bulbs, and not all plastics are recyclable. Pay attention to the number inside the recycling triangle on plastic items (see figure below). Each number corresponds to a certain type of plastic. Check with your recycling program to see which types are currently being accepted.


The differences among reducing, reusing and recycling can be subtle. Consider a car tire. Driving less reduces wear on tires, making them last longer. Fewer old tires mean reduced waste. If a tire's form isn't changed, such as when it becomes part of a swing, it's being reused. If a tire's processed into a new product, such as when it's ground with other tires to make mulch, it has been recycled.

## This Issue's "Outside Page"

The "Outside Page" in this issue of *C4K* discusses being a recycling detective, carrying a lunch without creating litter and having students participate in the **NY Recycles Poster Contest,** sponsored by NYSDEC. Encourage your students to be creative; you might be surprised by the results!

### Teacher Workshops

For teachers who have participated in a Project WET or Project Learning Tree workshop, the activities listed below complement this issue of *Conservationist for Kids*. Visit **www.dec.ny.gov/education/1913.html** for information about workshops and about how to obtain curriculum and activity guides.

**Project WET**: There is No Away
Rainy Day Hike
A-maze-ing Water

**Project Learning Tree:** A Look at Aluminum
Reduce, Reuse, Recycle
Municipal Solid Waste

***Conservationist for Kids*** **and an accompanying teacher supplement are distributed to public school fourth-grade classes three times each school year (fall, winter and spring).** If you would like to be added to or removed from the distribution list, if your contact information should be changed, or if you have questions or comments, please e-mail the editor at **KidsConservationist@dec.ny.gov** or call 518-402-8047.

# Supplemental Activities for the Classroom

**Hold a Returnable-Bottle Drive**
Bottle drives can be great fundraisers for your classroom or your school. Whether you are trying to raise funds for a specific purpose, such as a field trip or new playground equipment, or for charity, collecting returnable bottles and cans is an easy way for students (and the community) to support a cause. Collection containers can be placed in the classroom or in locations throughout the school, making it convenient for fellow students, faculty and staff to contribute. Have students design posters describing the bottle drive and its goals, and partner with school administration to coordinate school-wide collection efforts.

**Conduct a Waste Audit**
Conducting a waste audit for your classroom will help students realize how much waste the average person creates and can generate discussions about steps that everyone can take to reduce their waste impact. This audit could be an extension of the "Litterless Lunch" activity found on the **Outside Page** and could also be expanded to include additional areas in the school. Guides to conducting a classroom waste audit can be found online at: **www.recycleworks.org/schools/s_audits.html** and **http://resourcefulschools.org/grades-4-12-classroom-waste-audit/**.

**Start a Classroom Composting Program**
Establishing an indoor composting program can be a lot easier than you might think. Vermicomposting, or composting using a worm bin, requires little space, produces rich compost that can be used in a classroom gardening project, and can aid in learning about living organisms and the processes involved in composting and decomposition. A great resource for classroom vermicomposting can be found at: **www.calrecycle.ca.gov/education/curriculum/worms/.**

# Do you have an interactive white board in your classroom?

If you use a SMART Board or similar interactive white board or projection system in your classroom, consider downloading a PDF of *Conservationist for Kids* and using it along with the printed copies enclosed in this mailing. This issue and all of our back issues are available at: **www.dec.ny.gov/education/40248.html**.

# Online Resources and Books

**DEC's Recycling and Composting** www.dec.ny.gov/chemical/294.html
**DEC's New York Recycles** www.dec.ny.gov/chemical/8802.html
**DEC's Waste Reduction and Recycling pamphlets** www.dec.ny.gov/chemical/8801.html
**Keep America Beautiful's Recycle-Bowl** www.dec.ny.gov/chemical/43349.html
**NYC Recycles - Recycling in Schools** www.nyc.gov/html/nycwasteless/html/recycling/schools.shtml
**Cornell Waste Management Institute's *Composting in Schools* webpage** http://compost.css.cornell.edu/schools.html
**Information about recycling, especially electronics** www.earth911.com
**USEPA's educational materials and games about waste** www.epa.gov/osw/education/
**USEPA's *Composting* webpage** www.epa.gov/epawaste/conserve/composting/index.htm
**USEPA's *Wastes* webpage** www.epa.gov/epawaste/index.htm
**Garbology** www.naturebridge.org/garbology.php
**One More Generation Plastic and Recycling Awareness** http://onemoregeneration.org/educational-program-info/
*Composting: An Easy Household Guide* by Nicky Scott, Chelsea Green Publishing Company, White River Junction, VT, 2007
*Reduce, Reuse, Recycle: An Easy Household Guide* by Nicky Scott, Chelsea Green Publishing Company, White River Junction, VT, 2007
*Where Does the Garbage Go?* by Paul Showers, Harper Collins (revised edition), 1994
*Worms Eat My Garbage: How to Set Up and Maintain a Worm Composting System, 2nd Edition* by Mary Appelhof, Flower Press, 2003

**Limited quantities of *Conservationist for Kids* magazine back issues are available upon request.** Go to **www.dec.ny.gov/education/40248.html** to preview back issues online before requesting printed copies. From each issue's lead page, use the link "read the entire issue, cover to cover" to access an eight-page PDF of the print version. To request printed copies (individual or bulk), e-mail the editor at **KidsConservationist@dec.ny.gov** or call 518-402-8047.